03.01-3/23/00-02459

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAR 2 3 2000

Lance Laughmiller
LANTNAVFACENGOM
1510 Gilbert Street
Norfolk, Va. 23511-2699

RE: Ecological Risk Review of Screening Level Ecological Risk Assessment and Step 3A
Marine Corps Air Station Cherry Point, North Carolina

Dear Mr. Laughmiller:

Please find attached EPA comments on the above stated document. I have discussed these comments with Ted Simon and other Regional RPMs . We agree that, while the document is complete and the information therein supports the data, the structure of the document should be re-written to conform to Region 4 requirements.

If you have any questions, please feel free to call me at (404) 562-8526 or email me at thornton.michelle@epa.gov.

Sincerely,

Michelle P. Thornton,
Remedial Project Manager

3/23/00

Attachment

cc: Taylor Sword
Dale McFarland
Douglas Bitterman
Greg Zimmerman
Linda Raynor
Jay Bassett

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4

61 Forsyth Street
Atlanta, Georgia 30303-3104

March 13, 2000

4WD-OTS

MEMORANDUM

SUBJECT: Ecological Risk Review of Screening Level Ecological Risk Assessment and Step 3A
Marine Corps Air Station Cherry Point, North Carolina

FROM: Ted W. Simon, PhD, DABT
Toxicologist
Office of Technical Services

TO: Michelle Thornton,
RPM, FFB

CC: Elmer W. Akin,
Chief, OTS

Per your request, I have reviewed the subject document. Please feel free to share these comments as you see fit.

Summary

Although the document was complete and the information therein supported the conclusions, the structure and organization of the document was flawed. It should be rewritten to conform to regional requirements.

General Comments

Organization

Steps 1 and 2 should be distinct from step 3A. In this document, the parts of the three steps were presented together resulting in some confusion on the part of the reviewer. For example, Sections 3 and 4 present food chain modeling. This effort should be presented much later in the document to conform to the steps of the ERA process.

Assessment versus Measurement Endpoints in a Screening Level Ecological Risk Assessment

On pages 2-5 to 2-7, a number of species were presented as assessment endpoints. Using effects in particular species as assessment endpoints is conceptually incorrect. For example, an assessment endpoint would be the maintenance of survival and reproduction of an herbivorous

SLERA are the Region 4 screening levels for abiotic media. These levels should be discussed as not being specific to the assessment endpoint, but developed to be protective of the vast majority of assessment endpoints in Region 4.

Use of Screening Values from other EPA Regional BTAGs

Chemicals without Region 4 abiotic screening values that are present on site should be carried through to step 3A. In the document, Region 3 BTAG screening values were used for several chemicals. This comparison is inappropriate in steps 1 and 2. Rather, chemicals without Region 4 screening values should be carried forward to step 3A and then a comparison with screening values from other regions should be provided and discussed. Region 4 considers the Region 3 BTAG values to be protective and screening against these number is appropriate in step 3A

Body Weight Adjustment

The equation presented on page 3-1 should not be used to correct NOAELs for mammals. In general, Region 4 does not scale NOAELs according to body weight. Instead, the actual NOAELs taken from studies of mammals should be used without adjustment similar to the procedure suggested in the document for avian receptors.

Step 3A, Procedures for COPC refinement

- Prepare a list of COPCs in each medium based on steps 1 and 2

  Chemicals with no Region 4 screening values should be included in this list.

- Perform background comparison to refine the COPC list

  This step was performed incorrectly in the document. Background comparison is not a development of risk estimates for background but rather a comparison of a measure of the on-site concentrations with background concentrations of specific inorganic chemicals in specific media. Generally, background comparison is performed with the 2X background criterion, comparing the maximum detected concentration on site with twice the mean of the background values in the same medium. Statistical comparison to background should be discussed with Region 4 personnel.

- Compare chemicals with no Region 4 screening values to the Region 3 BTAG values and discuss whether the chemicals should be kept as COPCs or eliminated.

- Perform food chain modeling using maximum detected concentrations, with site use factor (SUF) set to 1.0 and the most protective BAF to refine the COPC list further.

- Perform additional food chain modeling varying the SUF and using mean (as opposed to maximum) concentrations of chemicals and discuss these results.

- Discuss site-specific and chemical-specific issues such as the occurrence of Arochlor 1248 in sample 012SD04

- Discuss uncertainties relating to the assessment.

Please let me know if you need further help.

T.W. Simon/tws:4WD-OTS:28642/03/13/0/A:\DISK8\MAR00\CP_OU6.WPD